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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,622	03/17/2005	Koji Ogata	F-8590	8430

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EXAMINER

KERNS, KEVIN P

ART UNIT	PAPER NUMBER
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1725

MAIL DATE	DELIVERY MODE
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06/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/524,622

Applicant(s)

OGATA ET AL.

Examiner

Kevin P. Kerns

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/11/07.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-40015 in view of JP 61-256961 (complete translation of JP 61-256961 provided with this Office Action).

JP 7-40015 discloses a continuous casting immersion nozzle and method for its production, in which the nozzle is situated near a molten metal level of a continuous casting apparatus, and is prepared by integrally molding a compound that includes zirconia, graphite carbon, and more than 10% by mass (16-31%) of clinker particles

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containing CaO as a mineral phase; and disposing the zirconia/graphite/CaO-containing compound onto an inner hole surface of the nozzle (abstract; paragraphs [0011]-[0026] of Japanese text; and Figures 1a and 1b). JP 7-40015 does not disclose using an anti-hydration treatment on the surface of a portion of the CaO-containing clinker particles, which includes CaO conversion to CaCO_3 .

However, JP 61-256961 (also see translation) discloses a calcitic clinker that comprises CaO and a covering layer of CaCO_3 on its surface, with the CaCO_3 being carbonated (anti-hydration treatment) by heating of CaO in an atmosphere containing CO_2 , and allowing conversion to CaCO_3 , for the purpose of obtaining a calcitic clinker having high resistance to slaking/crumbling (abstract; and pages 6-24 of translation).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the continuous casting immersion nozzle and method for its production, as disclosed by JP 7-40015, by using the anti-hydration treatment on the surface of a portion of the CaO-containing clinker particles, which includes CaO conversion to CaCO_3 , as taught by JP 61-256961, in order to obtain a calcitic clinker having high resistance to slaking/crumbling (JP 61-256961; abstract; and [Means of Solving the Problems] and [Effect of the Invention] sections on pages 7 and 24 of translation, respectively).

Response to Arguments

4. The examiner acknowledges the applicants' amendment and Information Disclosure Statement (IDS) received by the USPTO on June 11, 2007. The IDS has

been considered and initialed, and a copy is provided with this Office Action. The amendments overcome prior objections to the abstract and specification, and the IDS reference taken in view of the applicants' remarks overcome prior 35 USC 112, 2nd paragraph rejections. A complete translation of JP 61-256961 is also provided with this Office Action. Claims 1 and 2 remain under consideration in the application.

5. Applicants' arguments filed June 11, 2007 have been fully considered but they are not persuasive.

With regard to the applicants' remarks/arguments on pages 4-6 of the response, it is noted that the newly underlined portions in above section 3 reflect and clarify certain features within the translation of JP 61-256951. However, the examiner respectfully disagrees with the applicants' major argument that JP 7-40015 and JP 61-256961 are not properly combined under 35 USC 103(a). First, JP 7-40015 includes CaO both in free form (i.e. added) and as a mineral phase (in response to the paragraph bridging pages 4 and 5 of the applicants' remarks). As a result, JP 7-40015 does not teach away from a mineral phase, nor do the applicants claim a mineral phase as taken alone, or without a free form of CaO (method of claim 1 recites open-ended "comprising" language). Although JP 7-40015 does not teach the anti-hydration treatment to convert CaO to CaCO₃, JP 61-256961 indeed discloses this feature, and is contrary to the applicants' remarks in the paragraph bridging pages 5 and 6, which generally provides arguments against JP 61-256961 taken individually rather than its combination with JP 7-40015. The motivation for combining JP 61-256961 with the primary reference (JP 7-

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40015) is for obtaining a calcitic clinker having high resistance to slaking/crumbling (JP 61-256961; abstract; and pages 7 and 24 of translation). In response to applicants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571)

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272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on (571) 272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns *Kevin Kerns 6/23/07*
Primary Examiner
Art Unit 1725

KPK
kpk
June 23, 2007